

BRACKET FOR COVERED RAIN GUTTERS

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a mounting bracket for mounting a rain gutter to a building. More particularly, the present invention relates to a rain gutter mounting bracket for mounting to a building a rain gutter having a trough and an overlying cover that serves as a deflector of leaves and debris.

Description of the Related Art

[0002] Rain gutters are generally open troughs that are arranged along the roof line of a building and in a position to catch surface water runoff from a pitched roof. A gutter is usually connected with a fascia board on the building and includes one or more downspouts to carry away the roof water runoff and direct it in a desired direction away from the building.

[0003] The usual way of attaching a rain gutter to a fascia board is by the use of long nails. The nails extend through openings in the gutter front wall and openings in the gutter rear wall. The gutter rear wall openings are either pre-formed or are formed by driving the nails through the rear wall and into the fascia board. Tubular sleeves or ferrules are commonly provided between the gutter front and rear walls to surround the nails and to maintain a desired front-to-back spacing of the walls to insure an adequately-sized and uniform gutter top opening along the length of the gutter.

[0004] Gutter mounting brackets of various configurations have also been utilized. Some such mounting brackets are of formed metal and others are of molded

plastic. Generally the brackets engage and extend between the gutter front and rear walls and they are secured to the fascia board either by nails or by screws.

[0005] Because conventional U-shaped gutters have an open top, they are susceptible to clogging by leaves and other debris that may be blown onto the roof. The leaves and debris can clog the gutter itself, or they can collect at a downspout opening provided in the gutter for connection with a downspout and clog that opening. When the gutter or the downspout opening becomes clogged, the material causing the clog must be physically removed so the gutter does not overflow and defeat the purpose for installing it in the first place. Removal of such collected material is most often accomplished by manually removing it, which usually requires mounting a ladder to access the gutter and downspout opening to enable the clogging materials to be removed.

[0006] In an effort to solve the gutter cleaning problem by preventing gutter clogging covered gutters have been developed. Various covered gutter configurations and supporting elements have been developed over the years in which a cover is supported above the gutter trough opening to act as a deflector of leaves and debris, so that they do not enter the gutter to accumulate and clog either the gutter or the downspout opening. Additionally, various gutter cover supporting arrangements have been proposed. However, many such supporting arrangements are flimsy brackets or are brackets that are shaped in such ways that render them inconvenient to install quickly and securely.

[0007] There is thus a need for a support bracket for a covered gutter that is easier to install, that is capable of being securely connected with the building fascia

board, that is rigid, and that maintains a desired orientation of the gutter and its cover in order effectively to prevent entry of leaves and debris into the gutter.

SUMMARY OF THE INVENTION

[0008] Briefly stated, in accordance with one aspect of the present invention, a support bracket is provided for positioning within a rain gutter that includes an overlying gutter cover. The bracket includes a substantially L-shaped body having a first leg adapted to be oriented substantially vertically when the bracket is installed in a gutter, and a second leg that is adapted to be oriented substantially horizontally when the bracket is installed in a gutter. The first leg includes a mounting surface that is adapted to contact a rear wall of a gutter.

[0009] At least one first bore extends through the first leg toward the mounting surface. The first bore extends in a direction substantially parallel to the second leg and serves for receiving a bracket fastener for securing the bracket to a substantially vertical building surface adjacent to a roof edge. At least one second bore extends into the second leg for receiving a cover fastener for securing a front edge of the gutter cover to the bracket. The second leg carries engagement means for engaging and supporting a front wall portion of a gutter. The first leg carries support means for engaging a rear portion of the gutter cover.

[0010] In accordance with a further aspect of the present invention the second bore is a blind bore.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The structure, operation, and advantages of the present invention will become further apparent upon consideration of the following description, taken in conjunction with the accompanying drawings in which:

[0012] Figure 1 is a front perspective view of an embodiment of a gutter support bracket for use with a gutter including an overlying cover or deflector.

[0013] Figure 2 is a side elevational view of the gutter support bracket shown in Figure 1.

[0014] Figure 3 is a rear view of the gutter support bracket shown in Figure 1.

[0015] Figure 4 is a cross-sectional view taken along the line 4-4 of Figure 3.

[0016] Figure 5 is a side perspective view of the gutter support bracket shown in Figure 1 when installed within a gutter having a gutter cover.

[0017] Figure 6 is a top perspective view of the gutter support bracket shown in Figure 1 when installed within a gutter adjacent to a gutter end cap and with the gutter cover omitted.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] Referring to the drawings, and particularly to Figures 1 through 4 thereof, there is shown an embodiment of a gutter support bracket 10 for supporting against a building surface a rain gutter trough and associated rain gutter cover (not shown). Bracket 10 is generally L-shaped and includes a first leg 12 and a second leg 14. Legs 12 and 14 are positioned relative to each other at substantially a right angle.

[0019] First leg 12 is adapted to be oriented in a generally vertical direction relative to a vertically-extending building surface. Leg 12 includes a generally flat mounting surface 16 that defines a rear surface of bracket 10 and that is parallel to a fascia board or similar building element when the bracket is in its operative position within a gutter. Mounting surface 16 can include a recess 18 to accommodate a similarly-shaped ridge that can be provided in a gutter rear wall (not shown) for stiffening purposes. Leg 12 can be defined by a flat central panel 13 with laterally-extending peripheral flanges 20, 22, and it also can include a plurality of interiorly-positioned ribs 24, 26, and 28 that extend between and interconnect respective peripheral flanges 20, 22. Flanges 20, 22 and ribs 24, 26, 28 serve to stiffen and to provide greater structural rigidity to leg 12.

[0020] Extending inwardly from front surface 30 of leg 12 to mounting surface 16, and best seen in Figure 4, are a pair of throughbores 32, 34 that are adapted to receive fasteners for fastening the gutter assembly to a building wall or fascia board. Suitable fasteners are nails and screws. As is apparent from Figure 4, the axes of throughbores 32, 34 are inclined relative to mounting surface 16, for ease of access to the fasteners when applying fasteners for attaching the bracket and gutter to the building surface. Throughbores 32, 34 extend within and along flat central panel 13 and can be parallel to each other as shown in Figure 4.

[0021] Also included on bracket 10, at the upper end of first leg 12, is a generally upwardly-facing support surface 29 for limiting downward movement of a cover that is positioned above a gutter for preventing the entry into the gutter of leaves and other gutter-clogging debris. Support surface 29 is preferably flat and can be

defined by a laterally-extending flange 31 that extends between and interconnects flanges 20 and 22.

[0022] Second leg 14 is adapted to be oriented in a generally horizontal direction relative to the vertically-extending building surface. Leg 14 can be defined by a flat central panel 15 with laterally-extending peripheral flanges 36, 38, 40, 42, and it also can include a plurality of interiorly-positioned ribs 44, 46 that extend between and interconnect respective peripheral stiffening flanges 36, 40. Ribs 44, 46 can be oriented to be substantially perpendicular to ribs 26, 28 of first leg 12. As was the case with the flanges and ribs provided on first leg 12, flanges 36, 40 and ribs 44, 46 serve to stiffen and to provide greater structural rigidity to leg 14.

[0023] Extending inwardly from surface 48 of leg 14, and best seen in Figure 4, is a blind bore 50 that is adapted to receive a fastener for fastening to bracket 10 a front edge panel of a gutter cover (not shown). Suitable fasteners are, again, nails and screws. As is apparent from Figure 4, the axis of blind bore 50 can be oriented to be parallel to the axes of throughbores 32, 34. The angular orientation of blind bore 50 facilitates access to the fasteners when applying fasteners for attaching the gutter cover to bracket 10.

[0024] Arranged below the opening to blind bore 50 in surface 48 is a projection that extends outwardly from surface 48 to define a positioning stop 52 that includes a stop surface 54. Stop surface 54 of stop 52 serves as a stop against which an edge of a gutter cover front panel can be positioned to orient the gutter cover front panel relative to bracket 10.

[0025] Provided at the outermost lateral end 56 of second leg 14 is a hook-shaped end member 58 that has an inner opening 60 that opens to face surface 48. End member 58 is configured to engage with a front recess formed in a gutter front wall to provide a front support for the gutter. Opening 60 is adapted to receive an inturned lip (not shown) at the free end of the gutter front wall as additional security against a gutter slipping down from bracket 10.

[0026] Each of first leg 12 and second leg 14 can include one or more laterally-outwardly-extending connection members 62, 64, such as bosses extending from central panels 13, 15, respectively. Connection member 62, 64 can have a tubular form as shown and can include respective openings 63, 65 for receiving a connection member, such as a connecting screw, for connecting a gutter end cap adjacent a gutter end, as is explained below.

[0027] Bracket 10 is shown in its installed position within a gutter in Figures 5 and 6. Figure 5 is an end perspective view of a gutter 66 having an overlying cover 68 that is attached to a fascia board 70 positioned below a sloping roof 72 of a building 74. Bracket 10 is secured to fascia board 70 by two screws 76, 78 that are received in throughbores 32, 34, respectively, within bracket 10. Screws 76, 78 pass through a gutter rear wall 80 that lies between bracket mounting surface 16 and the surface of fascia board 70. The upper front edge 82 of gutter 66 is supported by hook-shaped end member 58 of bracket 10 (see Figures 1 and 2), which receives an inturned lip 84 of front edge 82 of gutter 66. In actual use, several brackets 10 are spaced along gutter 66, at a suitable spacing, which can be approximately 24 inches. Consequently,

gutter 66 is fully and securely supported on fascia board 70 by a series of spaced brackets 10.

[0028] Gutter 66 includes overlying cover 68, which is a substantially flat panel that extends from gutter rear wall 80 to a cover forward end 86 and then curves inwardly into gutter 66. End panel 88 of cover 68 is a flat panel that is secured to respective brackets 10 by screws 90. End panel 88 includes an end edge 92 that is received on respective stop surfaces 54 of brackets 10. Stop surfaces 54 accurately position the front edge of cover 68 so that cover forward end 86 is uniformly spaced from gutter upper front edge 82 along the entire length of the assembled gutter. The end of cover 68 adjacent to building 74 has an upturned lip 94 that is secured to fascia board 70 by a series of spaced screws 96. Additionally, that end of cover 68 is also supported on its inwardly-facing surface in a vertical direction by support surfaces 29 of respective spaced brackets 10.

[0029] Figure 6 is a top perspective view of an assembled and installed gutter 66 in which one bracket 10 is shown adjacent an end of the gutter, but without the gutter cover shown in Figure 5. Gutter 66 includes an end cap 98 that serves to close off the open end of the gutter so that water collected within gutter 66 flows to one or more downspout openings (not shown) provided in gutter 66. Additionally, end cap 98 can be secured in position at the gutter end by screws (not shown) that extend through the end cap and are received within one or more of openings 63, 65 in respective connection members 62, 64 of a bracket 10 that is the endmost bracket within the gutter.

[0030] Bracket 10 can advantageously be formed from a rigid plastic material by injection molding. Suitable materials include ABS, polypropylene, and the like.

[0031] Although particular embodiments of the present invention have been illustrated and described, it will be apparent to those skilled in the art that changes and modifications can be made without departing from the spirit of the present invention. Accordingly, it is intended to encompass within the appended claims all such changes and modifications that fall within the scope of the present invention.